

WHAT IS CLAIMED IS:

1. A vehicle air conditioner for a vehicle, the vehicle having an instrument panel on which at least one of a temperature-setting switch, an air volume-setting switch, an audio switch, and a navigation switch is disposed, the vehicle air conditioner comprising:

a non-contact temperature sensor that detects a temperature of inside air of the vehicle; and

a control unit that controls a temperature of conditioned air flowing into a vehicle compartment based on the temperature detected by the non-contact temperature sensor,

wherein the non-contact temperature sensor is disposed on the instrument panel so that the non-contact temperature sensor is disposed above at least one of the temperature-setting switch, the air volume-setting switch, the audio switch, and the navigation switch.

2. The vehicle air conditioner according to claim 1, wherein the non-contact temperature sensor is disposed above all of the temperature-setting switch, the air volume-setting switch, the audio switch, and the navigation switch.

3. The vehicle air conditioner according to claim 1, further comprising:

a memory that stores a detection value detected by the non-contact temperature sensor,

wherein upon detecting an operation of one of the

temperature-setting switch, the air volume-setting switch, the audio switch, and the navigation switch, the control unit controls the temperature of the conditioned air based on the detection value that is detected a prescribed time period before the detection of the operation.

4. The vehicle air conditioner according to claim 1, further comprising:

a memory that stores a plurality of detection values detected by the non-contact temperature sensor,

wherein upon detecting an operation of one of the temperature-setting switch, the air volume-setting switch, the audio switch, and the navigation switch, the control unit controls the temperature of the conditioned air based on the detection values that is an average of the plurality of detection values stored in the memory.

5. The vehicle air conditioner according to claim 1, wherein the non-contact temperature sensor is positioned off a centerline of the vehicle toward a passenger seat.

6. The vehicle air conditioner according to claim 1, wherein the non-contact temperature sensor is an infrared temperature sensor, and a sign of the infrared temperature sensor is placed on one side of the infrared temperature sensor to indicate its existence.

7. The vehicle air conditioner according to claim 1, wherein the instrument panel has a front recess in a shape of one of a cone and a pyramid, and has a temperature-sensing window positioned at the bottom of the front recess.

8. The vehicle air conditioner according to claim 7, wherein the front recess is opened toward the vehicle compartment so that the front recess has a bottom surface sloping down toward the vehicle compartment.

9. The vehicle air conditioner according to claim 7, wherein the front recess is directly formed in a facing plate that is a part of the instrument panel.

10. The vehicle air conditioner according to claim 7, wherein the non-contact temperature sensor includes:

- a temperature sensing element that has a thermocouple;
- a sensor container that houses the temperature sensing element;

wherein the temperature-sensing window has a lens and a filter that is disposed at front side of the sensor container, and

the thermocouple is disposed in an inner part of the sensor container.

11. The vehicle air conditioner according to claim 7, wherein the instrument panel has a facing plate that has a

hole in which the non-contact temperature sensor is disposed.

12. A vehicle air conditioner comprising: ✓

an air-conditioning unit that conditions a temperature of air that is blown into a vehicle compartment through a face blowout port;

a non-contact temperature sensor that detects a surface temperature within a temperature-detecting range in the vehicle compartment; and

a control unit that controls the temperature of the conditioned air in response to the surface temperature detected by the non-contact temperature,

wherein the non-contact sensor is disposed above the face blowout port.

13. The vehicle air conditioner according to claim 12, wherein the face blowout port is disposed on a facing plate in the vehicle compartment, and the non-contact temperature sensor is disposed in a recess of the facing plate.

14. The vehicle air conditioner comprising: 0

an air-conditioning unit that conditions a temperature of air that is blown into a vehicle compartment through a face blowout port;

a non-contact temperature sensor that detects a surface temperature within a temperature-detecting range in the vehicle compartment; and

a control unit that controls the temperature of the conditioned air in response to the surface temperature detected by the non-contact temperature,

wherein the non-contact sensor is disposed in a recess at one side of the face blowout port in a horizontal direction.

15. The vehicle air conditioner according to claim 13, wherein the non-contact temperature sensor includes:

a case that is disposed in the recess of the facing plate and has a window that is opened toward the temperature-detecting range; and

a sensing element that is disposed in the case, and detects the surface temperature within the temperature-detecting range in response to infrared rays entering from the temperature-detecting range through the window.

16. The vehicle air conditioner according to claim 12, wherein the vehicle has an instrument panel on which at least one of a temperature-setting switch, an air volume-setting switch, an audio switch, and a navigation switch is disposed, and

the non-contact temperature sensor is disposed above at least one of the temperature-setting switch, the air volume-setting switch, the audio switch, and the navigation switch.